

Onsite Renewable Energy

Installing solar panels or other renewable energy technology on your home or business is another way you can contribute to the Green Power Community Challenge. Each kilowatt-hour of power generated from a Rockville based solar electric system will count toward the Challenge.

Photovoltaic (PV) systems convert sunlight to electricity. Systems produce direct current (DC) electricity and an inverter converts the power to alternating current (AC) to power household items. With net metering, the excess electricity can be sold back to the grid. Without a battery storage system (which adds costs), electricity is not available when the grid is down. There are several things to consider when installing renewable energy systems:

QUICK TIP

Before installing a renewable energy system, first maximize your building's [energy efficiency](#). Improving the energy efficiency will maximize the value of the solar installation and save even more money.

- **Site considerations:** To decide if your site is right for solar, consider your roof orientation and age, available space, structural conditions, shading by trees, buildings, chimneys, roof lines, and the suitability of your electric service panel. In general, a relatively new, structurally sound, south-facing roof with no shade is the best. Consult a solar professional for a viability assessment.
- **Financing options:** There are now many financing options for solar systems. You can purchase the system up-front. By owning the system, you can take advantage of grants, tax incentives and Solar Renewable Energy Credits (SRECs). There are also solar leasing options that reduce or eliminate the large upfront cost of solar installations. A third party installs, owns and maintains the panels and the homeowner leases the system for a lower monthly electricity cost. With a solar power purchase agreement (PPA), someone else owns and maintains the equipment, and you pay for electricity (per kWh) the panels produce. Both leases and PPAs have either fixed, escalating, or de-escalating monthly payments over the lifetime of the agreement, which can be fifteen years or more. They are similar because there are little or no upfront costs, someone else owns and maintains the system, and you can get a lower monthly electricity bill from a clean, renewable energy source.
- **Financial incentives:** Maryland grants and federal tax incentives are available. You may also be able to receive additional income by selling the Solar Renewable Energy Credits (SRECs). One SREC is generated every time your system produces one megawatt-hour (1,000 kWh) of power. Although the value of SRECs varies, the additional income can shorten the payback period of your investment.

Resources for selecting, installing and financing renewable energy systems:

- [Maryland Clean Energy Center](#)
- [Maryland Energy Administration](#)
- [DOE- Planning a Home Solar Electricity System](#)
- [Montgomery County Solar Tips](#)
- [Database of Energy Incentive Opportunities- Maryland](#)
- Consult Rockville's [Department of Planning and Development Services](#) to ensure that your project complies with zoning and building permit requirements.

If your business or home has an on-site renewable energy system, please email the following information to greenpower@rockvillemd.gov so that we may report your contribution to EPA: site address (at least street name); onsite generation technology type (solar, wind, etc.); green power production (kWh/year); rated capacity (kW); and year installed.